Joint Test & Evaluation Excerpt

of

DOT&E FY 2004 Annual Report

JOINT TEST AND EVALUATION (JT&E) PROGRAM

INTRODUCTION

For over thirty years, the JT&E Program has provided quantitative information for analysis of joint military capabilities and delivered products that directly increased military effectiveness. The program is complementary to, but not a part of, the weapons acquisition process. A JT&E test brings together two or more Military Departments or other components to:

- Assess the interoperability of Service systems in joint operations.
- Evaluate improvements in joint technical and operational concepts.
- Evaluate and validate multi-Service testing methodologies.
- Assess performance of interacting systems under realistic joint operational conditions.
- Provide data from joint field tests and exercises to validate models, simulations and test beds.
- Improve joint tactics, techniques, and procedures (TTPs), recommend changes to Concepts of Operations (CONOPS), and provide recommended Doctrine.
- Improve Joint Training Tasks for the COCOMS.

Director, Operational Test and Evaluation (DOT&E) re-engineered the JT&E process in 2003 to provide increased capabilities and responsiveness to the warfighter. The program was restructured to be more agile and to respond more quickly to emergent needs and requirements. The nomination process was streamlined and testing accelerated, with Joint Tests shortened to a maximum of three years as opposed to the previous five- or six-year test duration. Added to the JT&E Program are Quick Reaction Tests (QRTs) that provide testing and reporting of results in twelve months or less for urgent, high-priority, warfighter operational issues. In its first year of inception three QRTs were directed. The **Joint Survivability (JSURV) QRT** developed and delivered convoy survivability procedures to U.S. Central Command (CENTCOM) to help minimize combat casualties. Approximately ninety percent of deployed convoys are using these procedures. JSURV also developed a U.S. Special Operations Command- (SOCOM) specific combat convoy handbook and convoy leader's graphic training aid for Special Operations Forces operating in Iraq and Afghanistan. The JSURV QRT was completed in nine months from inception to final reporting. Over 40,000 handbooks have been published and provided to our warfighters involved in the Global War on Terrorism.

Other on-going QRTs include **Joint Shipboard Weapons and Ordnance (JSWORD)** and **Joint Low Altitude Aircraft Survivability (JLAAS)**. JSWORD will establish, document, and publish a standard joint procedure for tube loading the 2.75-inch Folding Fin Aerial Rocket on U.S. Army (USA) and USSOCOM helicopters with engines running and blades turning while operating on U.S. Navy ships. JLAAS will develop and validate changes to fixed and rotor wing TTPs that enable them to avoid or defeat potential enemy threats to the aircraft from enemy weapon systems such as Man-Portable Air Defense Systems (MANPADS).

As part of the re-engineering process, current tests were accelerated and test durations shortened. **Joint Cruise Missile Defense (JCMD)** , **Joint Command and Control, Intelligence, Surveillance, and Reconnaissance (JC2ISR)** and **Joint Unmanned Aerial Vehicle (JUAV)** have shortened their closedown process and accelerated delivery of their final reports to the warfighter by six months. In July 2003, OSD chartered **Joint Datalink Information Combat Execution (JDICE)** six months early, with their first test conducted seven months after being chartered.

As part of the re-engineering improvements, the program office stood up a Joint Test Support Cell (JTSC) to provide a “quick start” capability for both Joint Feasibility Studies (JFSs) and QRT efforts. JT&E efforts have historically been undermanned early in the process, hampered by a steep learning curve for new personnel. The JTSC was established to solve this problem and is manned by a core group of JT&E planning and operational subject matter experts.

During FY 04, the JT&E Program Office coordinated participation of four JT&Es at the Combined Joint Task Force Exercise 04-2 (CJTFEX 04-2) to capitalize on program synergies, avoid duplication of effort

and resources, and ensure the best employment of personnel and materiel. CJTFEX-02 was a first-of-its-kind designated effort to conduct a simultaneous test and training event that provided real-time testing opportunities to the tester and training improvements to the warfighter.

Joint Global Positioning System Combat Effectiveness (JGPSCE) JT&E provided:

- Live GPS Electronic Warfare (EW) play
- Assessment of the impact of GPS EW on the Joint Force Air Component Commander, and the ability of ISR sensors to detect GPS jamming

Joint Methodology to Assess C4ISR Architecture (JMACA) JT&E provided (and validated) methods to rapidly identify C4ISR deficiencies and propose appropriate solutions. The test conducted a re-assessment of CJTFEX 04-2 architecture in less than three days, providing:

- Updated end-to-end information paths
- Assessment of interoperability risk associated with each functional thread and system

Joint Cruise Missile Defense (JCMD) JT&E:

- Provided a cruise missile emulator
- Conducted cruise missile defense mission area coCONOPS

Joint Command, Control, Intelligence, Surveillance, and Reconnaissance (JC2ISR) JT&E:

- Provided mission area analysis for time-sensitive targeting (TST)

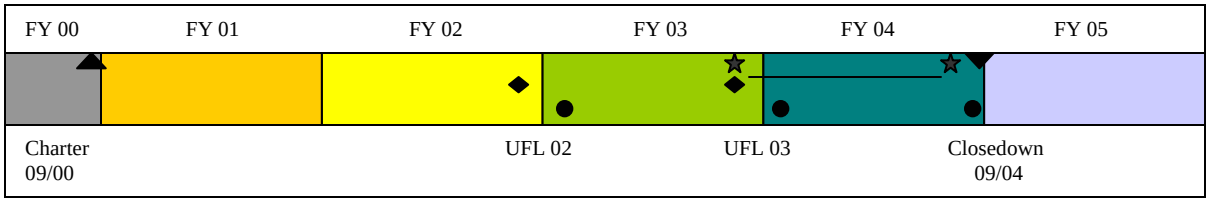
Based on the positive results of participation in Joint Test and Training events, the JT&E Program Office is providing a direct coordinator for future test events. In addition, the JT&E Program Office has established a liaison position to integrate JT&E Test Products into appropriate U.S. Joint Forces Command (JFCOM) directorates.

During FY 04, the JT&E program selected two Joint Feasibility Studies (JFSs) that will be considered for charter in February 2005.

- **Joint Urban Fires and Effects (JUFE)** increases the ability of the Joint Force Commander (JFC) to conduct urban fires (lethal, non lethal, other) and assess effects relative to the desired operational effect. JUFE was extended as a JFS for one year after the Senior Advisory Council determined it was an important subject for test but the JT&E program lacked funding for it to be chartered.
- **Joint Fires Coordination Measures (JFCM)** proposes to test and evaluate new Joint TTPs designed to standardize kill box procedures and enable theater commanders to more fully integrate component fires at the operational and tactical levels.

A JT&E senior advisory committee will convene in February 2005 to recommend which of these proposed tests will be chartered and start testing. Additional information on current and transitioning JT&E test activities and the products they are delivering to the warfighter are described below.

JOINT BATTLE DAMAGE ASSESSMENT (JBDA)



Charter – Joint Test start date
Close – Join t Test end date
Key Test Events
Reports – Key Test Event reports
Test Products – Transition of products to customers

SUMMARY

- JBDA was a five-year Army-led test that completed September 30, 2004. It was located in Suffolk, VA.
- Data was collected from multiple venues. Baseline testing was executed during Ulchi Focus Lens (UFL) 02; Contingency testing at Operation ENDURING FREEDOM and Operation IRAQI FREEDOM and Enhancement testing at UFL-03.
- JBDA's final report was released at end of FY 04. Nineteen of JBDA's enhancements have been transitioned into permanent test products for the joint BDA process across Service and component lines.

TEST DESCRIPTION AND MISSION

JBDA was chartered to study and enhance the joint battle damage assessment (BDA) process. During Operation DESERT STORM, joint force BDA requirements exceeded the available intelligence collection capabilities. The DoD Final Report to Congress, *Conduct of the Persian Gulf War*, stated, "The BDA process was difficult, especially for re-strike decisions." The report recommended the establishment of effective BDA doctrine and organization, and it identified a critical need to develop a BDA process for maneuver forces. A lack of trained BDA analysts exacerbated the situation. The Army was designated as the lead Service and the Army Intelligence Center and School was appointed the sponsoring command. The Joint Chief of Staff/J2T was selected as the operational mentor.

JBDA conducted its testing in operationally-realistic environments during joint exercises and during real world operations using the BDA cycle as the basis for the evaluation to ensure thorough testing of each critical function. JBDA evaluated the processes used by a joint force to assess physical, functional, and target system battle damage, and evaluated the ability of the BDA process to support operational planning and execution.

TEST AND EVALUATION ACTIVITY

JBDA provided input to a GAO report, dated June 2004, (GAO 04-547) dealing with recent military combat operations and barriers to continued progress. JBDA provided the GAO researchers with current information on joint BDA processes and explained how to implement known solutions within combatant commands and other military organizations. These comments helped shape GAO's perspective on joint BDA and other targeting issues within their report. DoD concurred fully or in part with all four of the GAO's recommendations in its final report.

JBDA dedicated significant effort and resources toward offering, tailoring, and implementing its enhancements in partnership with all applicable combatant commands, Services, and defense agencies. USFK, USCENTCOM, USPACOM, and USEUCOM continue to utilize JBDA enhancements in their quest for improving BDA, combat assessment, and operational/effects-based assessments. *The Commander's Handbook for Battle Damage Assessment*, published by USJFCOM, provides a non-doctrine

source for BDA information to the joint community and the Services. USJFCOM's DOTMLPF Change Recommendation Package (DCR) for BDA, in response to Operation Iraqi Freedom Major Combat Operations Lessons Learned, leaned heavily on JBDA's experience with BDA. In fact, nine of the ten recommended approaches to improving BDA were either developed by or had significant input from JBDA.

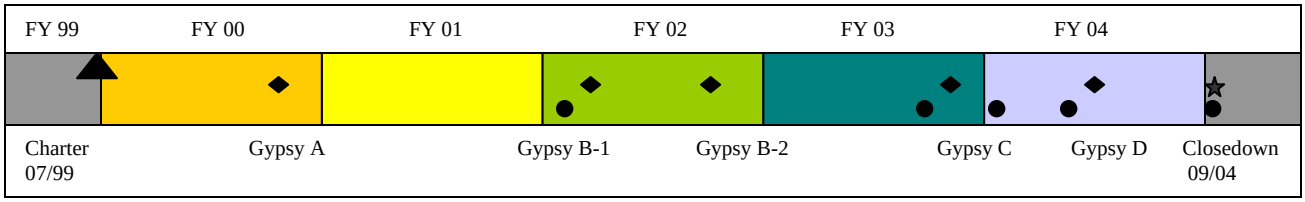
TEST AND EVALUATION ASSESSMENT

JBDA's focus has been on transitioning test validated enhanced procedures for the Joint BDA process, either as stand-alone products, as improvements to existing doctrine, or as part of a system of record. JBDA has transitioned its test products to the end users, to Combatant Commands, JFCOM, and to the Joint Staff. Through the vehicle of a DOTMLPF Change Recommendation (DCR) at JFCOM, JBDA test products have become a process for change for BDA within the Department of Defense. Joint Staff/J2T has become the office of record for the test products. JBDA was a successful Joint Test that serves the Warfighter in the DoD community.

PULL QUOTE

Nineteen of JBDA's enhancements have been transitioned into permanent test products for the joint BDA process across Service and component lines.

JOINT GLOBAL POSITIONING SYSTEM COMBAT EFFECTIVENESS (JGPSCE)



Charter – Joint Test start date
Close – Join t Test end date
Key Test Events
Reports – Key Test Event reports
Test Products – Transition of products to customers

SUMMARY

- JGPSCE was a five-year test that completed September 30, 2004. It was located in Kirtland AFB, NM. The lead service was the Air Force.
- The JGPSCE JT&E conducted field test events representing three types of combat operations: (1) Small Scale Contingency; (2) Limited Engagement; and (3) Major Theater War.
- Field testing discovered potential weapon systems vulnerabilities under conditions of GPS degradation and denial; JGPSCE published quick look test results that provided invaluable and timely information to the warfighter currently in theater.
- JGPSCE completed closedown activities and transitioned its knowledge base and data repository to the Office of the Assistant Secretary of Defense for Networks and Information Integration (ASD(NII)) sponsored transition team with a planned integration into the U.S. Strategic Command (STRATCOM) in FY 06.

TEST DESCRIPTION AND MISSION

The JGPSCE JT&E was chartered July 1999 to evaluate the impact of electronic warfare (EW) targeted against global positioning system (GPS) receivers in joint operations. GPS provides highly accurate, real-time, passive, common-reference grid position and time information to military and civilian users worldwide. GPS enables the military forces to precisely determine their position, velocity, and time. Knowledge of the exact position and time is essential to reconnaissance and intelligence missions. Effective use of GPS will: (1) enhance command and control and assure coordinated battle tactics and support; (2) support strategic and tactical warfare; (3) allow efficient maneuvering on the battlefield; (4) provide accurate and timely fire support; and (5) facilitate combat service support operations.

Field tests addressed a specific combatant command's theater of interest using: current tactics, training, and procedures; approved doctrine; actual concepts of operation; and "real" scenarios and threat lay-downs.

Each field test was designed to provide key information for warfighters to use in operational decision-making. The field tests employed open air GPS jamming representing real-world threats to evaluate the impact of GPS EW and electromagnetic interference (EMI) by comparing baseline performance to performance with EW and EMI present. Mitigation techniques and procedures were evaluated during test events, and the information was disseminated to the Services for incorporation into doctrine and tactics, techniques, and procedures. JGPSCE published quick look reports to the Services and the combatant commands immediately after each test event.

Phase 1 testing consisted of two live test events, GYPSY ALPHA and GYPSY BRAVO, at the tactical level of warfare. These tests focused on GPS EW and EMI vulnerabilities and mitigations for few-on-few engagements during small-scale contingency operations. Each live test in Phase l concentrated on portions of the sensor-to-shooter architecture. The GYPSY ALPHA field test, October and November 2000, exercised ground forces supplemented by limited airborne forces. The GYPSY BRAVO field test was executed in two parts, January 2002 and July 2002, exercising airborne platforms delivering precision guided munitions.

Phase 2 testing consisted of one live test event, GYPSY CHARLIE, to evaluate integrated systems-of-systems tactical and operational-level mission performance during limited engagement operations. The GYPSY CHARLIE field test, September 2003, exercised the sensor-C2-shooter kill chain prosecuting time-sensitive targets.

Phase 3 testing consisted of a single test, GYPSY DELTA, to evaluate integrated tactical- and operational-level systems with warfighters performing missions during a major theater of war scenario. The GYPSY DELTA, June 2004, focused on the joint targeting cycle.

TEST & EVALUATION ACTIVITY

JGPSCE completed the GYPSY DELTA field test in FY 04, planned for JT&E closedown and transition, and conducted numerous briefings and presentations. JGPSCE briefed GYPSY CHARLIE test results to the Services and three combatant commands.

- JGPSCE published the GYPSY CHARLIE Quick Look Report, the GYPSY CHARLIE Test Report, and two vulnerability assessment reports for specified systems evaluated in the GYPSY CHARLIE field test.
- JGPSCE executed the GYPSY DELTA field test as part of the Joint Forces Command Combined Joint Task Force Exercise 04-2 (CJTFEX 04-2) in June 2004.
- JGPSCE published the GYPSY DELTA Quick Look Report.
- JGPSCE published the JGPSCE Joint Test Final Report including annexes on the GYPSY DELTA Test and the JGPSCE GPS Vulnerability Test Methodology.
- JGPSCE completed work on the Navigation Warfare Memorandum of Understanding Test, Trials, and Demonstrations Project Arrangement and the Test Methodology Project Arrangement.

TEST & EVALUATION ASSESSMENT

JGPSCE provided rapid feedback to the warfighter community through quick look reports and briefings. JGPSCE addressed its three core issues through live test events:

- Evaluating joint warfighters performing operationally realistic tasks and missions under GPS EW and EMI.
- Evaluating effectiveness of tactics, techniques, procedures and mitigations employed by test participants in response to EW and EMI.
- Documenting and evaluating the effectiveness of the JGPSCE-developed GPS vulnerability test methodology.

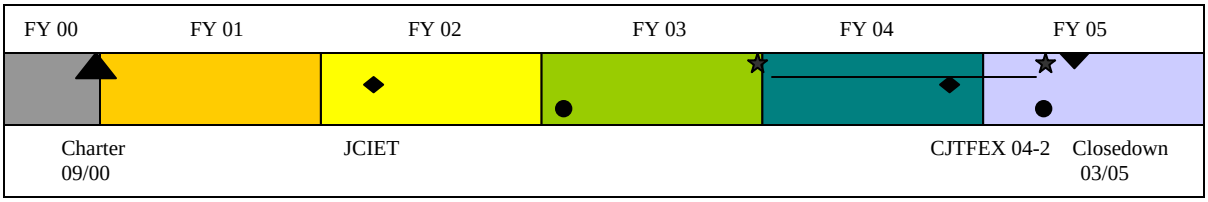
JGPSCE test events produced significant data on the effects of GPS EW and EMI on systems and system-of-systems. JGPSCE provided data and feedback to the warfighter, acquisition, and test communities through a variety of products with sufficient detail to make them applicable to the respective system or program. Reports included five detailed test plans, four test event reports, seven vulnerability assessment reports, one investigation report, and a final test report. Other products include recommendations for Joint TTPs and Multi-Service TTPs, the GPS Vulnerability Test Methodology, the GPS Vulnerability Assessment Database, and the JGPSCE GPS data repository.

The JGPSCE team developed unique talents, capabilities, and testing expertise during the execution of this program. A DoD Selected Area Review on Navigation Warfare recommended an organization be established to ensure these capabilities are not lost. To capitalize on this recognized expertise, OUSD(NII) and STRATCOM committed to support the transition of the JGPSCE knowledge base to STRATCOM in FY 06. OUSD(NII) took responsibility for supporting the JGPSCE transition effort in FY 05.

PULL QUOTE

JGPSCE executed the GYPSY DELTA field test as part of the Joint Forces Command Combined Joint Task Force Exercise 04-2 in June 2004.

JOINT COMMAND AND CONTROL, INTELLIGENCE, SURVEILLANCE, AND RECONNAISSANCE (JC2ISR)



Charter – Joint Test start date
Close – Join t Test end date
Key Test Events
Reports – Key Test Event reports
Test Products – Transition of products to customers

SUMMARY

- JC2ISR is a four-and-a-half-year test that is in its final year of execution. It is located at Hurlburt Field, FL. The Air Force is the lead Service. The final field test was executed in FY04 during CJTFEX 04-2. JC2ISR is completing data analyses and formulating their final recommendations and reports.
- JC2ISR's schedule was shortened by six months to accelerate delivery of final reports to the warfighter and close down early.
- JC2ISR is currently working with USJFCOM to transition capabilities and support exercises after closedown.
- Recommendations resulting from the JC2ISR JT&E significantly improve the Joint Force Commander's (JFC's) ability to integrate assigned organic and higher echelon platforms and sensors in a coordinated (cross-cued) and cooperative (simultaneous) collection strategy.
- Test results provided decision-makers with significantly improved C2ISR tasking, processing, exploitation, and dissemination (TPED) to support time-sensitive targeting (TST), and are applicable to all joint warfighters.

TEST DESCRIPTION AND MISSION

OSD chartered the JC2ISR JT&E in FY 00 to employ multi-Service and other DoD Agency support, personnel, and equipment to investigate, evaluate, and recommend improvements to the operational effectiveness of joint C2ISR. Specifically, JC2ISR tested and evaluated Joint Task Force (JTF) and Components' ability to dynamically task and re-task ISR collection platforms and sensors, and their ability to process, exploit, and disseminate combat information to support time-sensitive targeting (TST). JC2ISR baselined the processes used to prosecute time sensitive targets; identified ISR platform and sensor tasking, processing, exploitation, and dissemination deficiencies; and identified opportunities for improvement.

Prior to FY 03, JC2ISR conducted two mini-tests and one Field Test and published test reports on each event. During Field Test 1, JC2ISR employed Army, Navy, Air Force, SOF, and allied forces in a littoral environment in conjunction with the Joint Combat Identification Evaluation Team (JCIET) 2002 exercise. Mini-Test 2 and Field Test 1 results were combined with lessons learned from Operation IRAQI FREEDOM (OIF), to define the JC2ISR baseline, recommend improvements, and identify enhancements to improve JC2ISR TPED/Task Process Post Use (TPPU) capabilities against time sensitive targets evaluated during Field Test 2.

JC2ISR deployed several personnel in direct support of OIF; four to the CENTCOM Joint Intelligence Center at MacDill AFB, Florida; one as a member of the Predator unmanned aerial vehicle exploitation team at Beale AFB, California; two to U.S. Army, Central Command, Riyadh, Saudi Arabia; and one to Central Command Air Forces Prince Sultan Air Base, Saudi Arabia.

TEST & EVALUATION ACTIVITY

In FY 04, JC2ISR conducted its final field test, Field Test 2, in conjunction with Combined JTF Exercise (CJTFEX) 04-2. CJTFEX 04-2, the first Joint National Training Capability (JNTC) Thrust Three event, employed Army, Navy, Air Force, Special Operations Forces (SOF), and allied forces in a littoral environment in a joint field training exercise.

At the request of JFCOM, JC2ISR was designated the office of primary responsibility for TST data collection, analysis, and reporting during CJTFEX 04-2. JC2ISR evaluated the TST Joint Tactical Tasks (JTTs) for this major multinational exercise and developed a new Joint TST Universal Joint Task List (UJTL) for use in future exercises. JC2ISR, working in concert with Ninth Air Force (9AF), the exercise Joint Air Operations Center (JAOC), drafted two joint tasks, Dynamic ISR Support and Dynamic Targeting, for USJFCOM. JT&E enhancements were paramount in the exercise because they enabled 9AF to include OIF lessons learned. Findings during exercise planning led to preliminary recommendations relative to future JNTC events and JTTs for TST.

JC2ISR efforts in CJTFEX 04-2 contributed to a more robust test. JC2ISR also drafted Commander, Second Fleet (C2F)/(9AF) US Central Command Air Forces (CENTAF) TST Concept of Operations (CONOPS) for CJTFEX 04-2. JC2ISR drafted exercise CONOPS/TTPs for chat protocol and target kill removal and provided the TST Opposing Force (OPFOR) mobile targets set to include location, movement, and daily threat. JC2ISR efforts to integrate the National Geospatial Agency and Distributed Common Ground/Surface System (DCGS) Family of Systems (FOS) into the CJTFEX 04-2 architecture enhanced TST operations and lead to substantial findings. JC2ISR developed DCGS objectives and assessment drafts, DCGS CONOPS, and related TTPs.

JC2ISR received well-deserved accolades for management and development of the Test Control and Analysis Cell (TCAC) at CJTFEX 04-2, and the TCAC concept has been highly recommended for inclusion in future exercises. In addition, JC2ISR's active participation in the Air Land Sea Application Center's effort to draft TST multi-Service TTPs (MTTPs) not only helped form the basis for the subsequent revision and updating of joint publications by the Joint Warfighting Center at USJFCOM, but TST MTTPs for the NATO publication on TST procedures.

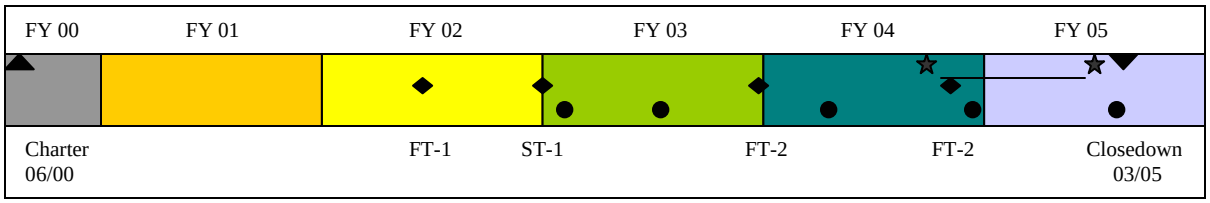
TEST & EVALUATION ASSESSMENT

JC2ISR developed numerous products for the Joint Staff, combatant commands, Services, national agencies, and other JT&E efforts. JC2ISR developed an ISR/TST operations integration process model as a tool to effectively evaluate joint C2ISR improvements in TST prosecution. Perhaps the most enduring product is the JC2ISR test and analysis methodology that, for the first time, integrates the rigors of joint testing with the training of personnel in a JNTC event that incorporates methods to reflect enhancements from lessons learned during recent combat operations and previous tests. In general, JC2ISR test products provide warfighters with a baseline effectiveness evaluation of current C2ISR capabilities and limitations, and quantify the effects of specific C2ISR enhancements to improve TST.

PULL QUOTE

JC2ISR received government accolades for management and development of the Test Control and Analysis Cell (TCAC) at CJTFEX 04-2, and the TCAC concept has been highly recommended for inclusion in future exercises.

JOINT CRUISE MISSILE DEFENSE (JCMD)



Charter – Joint Test start date
Close – Join t Test end date
Key Test Events
Reports – Key Test Event reports
Test Products – Transition of products to customers

SUMMARY

- JCMD is a five-year test that is in its final year of execution. It is located at Eglin AFB, FL. The Air Force is the lead Service. JCMD has completed two simulation tests and two major field tests.
- During FY 04 the final field test was executed during CJTFEX 04-2. JCMD is completing data analyses and formulation of final recommendations and reports.
- JCMD's schedule was shortened by six months to accelerate delivery of final reports to the warfighter and initiate close down early.
- JCMD prepared and submitted a Transformation Change Proposal to JFCOM as part of the effort to transition the capability and products developed.
- JCMD quantifies the effects of procedural and hardware enhancements to the Joint Integrated Air Defense S System (JIAD)S in a cruise missile defense role and makes recommendations to Combatant Commanders and the Services.
- JCMD products provide warfighters with a baseline effectiveness evaluation of current JIADS capabilities and procedures to meet the requirements of the JCMD mission area.

TEST DESCRIPTION AND MISSION

JCMD was chartered to employ multi-Service and other DoD agency support, personnel, and equipment to investigate and evaluate the operational effectiveness of joint operations against land attack cruise missiles (LACMs).

JCMD provides crucial information on near-term LACM defense capabilities and supports future architecture, technologies, and operational concepts. The basic JCMD test approach integrates a series of field tests and simulations in three phases to answer the program issues. Phase 0 addressed risk-reduction and ensured the program was prepared to collect and assess JIADS LACM capabilities. Phase 1 assessed JIADS current capabilities and identified potential problem areas and enhancements. Phase 2 evaluated the value of identified enhancements and provided the Combatant Commanders with both an assessment of the near-term (FY 04) capabilities as well as recommendations for further areas of improvement.

TEST & EVALUATION ACTIVITY

JCMD Phase 1 activities took place in FY 02. Field Test 1 was conducted in FY 03 as part of the U.S. Joint Forces Command (JFCOM) Joint Combat Identification Evaluation Team (JCIET) event in Gulfport, Mississippi. Field Test 1 assessed the current JIADS cruise missile defense capability in a live test environment using operational forces and an operationally representative scenario. JCMD flew BQM-74E (unmanned drones) and BD-5J (manned micro jets) to represent the current land attack cruise missile threat. More than 25 sorties were flown over land and sea, simulating surface and air launched land attack cruise missile profiles.

JCMD's second Phase 1 test in FY 02 was a simulation evaluation of the JIADS. JCMD executed Simulation Test 1 in September 2002, at the Boeing Virtual Warfare Center (VWC), St Louis, Missouri, and the Aegis Training and Readiness Center, Dahlgren, Virginia. Operator-in-the-Loop (OITL) systems in the evaluation included the Joint Air Operations Center, Tactical Air Operations Center, Patriot,

Airborne Warning and Control System, F-15C, Air Battle Management Operations Center, and Aegis Command Information Center.

JCMD Phase 2 test took place in FY 04 and assessed the enhanced JIADS capability. JCMD conducted Simulation Test 2 in March 2004, with the hub of operations at the Virtual Warfare Center. Simulation Test 2 integrated eight sites across four time zones via the Joint Distributed Engineering Plant bridged with the Navy Distributed Engineering Plant. These facilities include the VWC, the AWACS Integration Lab (AIL) in Seattle, WA; the Aegis Training and Readiness Center (ATRC) in Dahlgren, VA; the Distributed Mission Operations Center (DMOC) in Albuquerque, NM; the C4I Enterprise Integration Facility (CEIF) at Hanscom AFB, MA; the E-2C System Test Evaluation Lab (ESTEL) at Patuxent River, MD; and the Patriot simulation at Ft. Bliss, TX. This robust distributed OITL JIADS simulation immersed more than 100 operators in an integrated air and missile threat environment, which included fixed wing, theater ballistic missiles, ship attack cruise missiles, and land attack cruise missiles.

JCMD's Field Test 2 was conducted along the East Coast of the United States in June 2004 in conjunction with the Combined Joint Task Force Exercise 04-2 (CJTFEX 04-2) administered by Joint Forces Command (JFCOM) with 2nd Fleet being the primary executive agent. JCMD provided the Small Manned Aerial Radar Target Model-One (SMART-1) as a cruise missile surrogate to fly against JIADS. In addition to flying 100 cruise missile sorties, JCMD demonstrated the Remote Operations Center capability by supporting the Joint Theater Air and Missile Defense daily After Action Review.

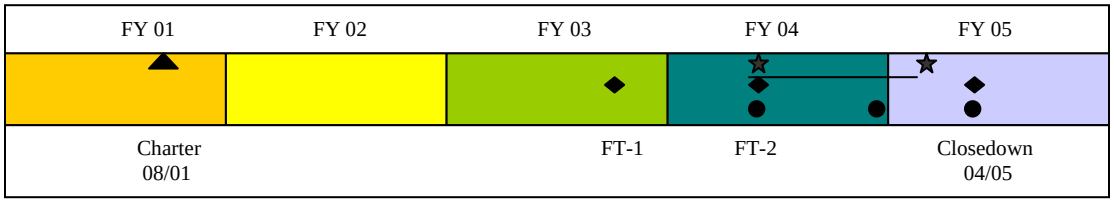
TEST & EVALUATION ASSESSMENT

JCMD enhances the capability of U.S. JIADS to defeat a cruise missile attack. After evaluating baseline JIADS capabilities and procedures to meet cruise missile defense mission area requirements, JCMD quantifies the effects of procedural and hardware enhancements to JIADS in a cruise missile defense role and makes recommendations to Combatant Commanders and the Services. JCMD products provide warfighters with a baseline effectiveness evaluation of current JIADS capabilities and procedures to meet the requirements of the JCMD mission area. JCMD's final report to be published in March 2005 will report the effects of concept of operations and TTP changes as well as command and control, sensor, and shooter system enhancements to the JIADS in a cruise missile defense role.

PULL QUOTE

Phase 2 [testing] evaluated the value of identified enhancements and provided the Combatant Commanders with both an assessment of the near-term (FY 04) capabilities as well as recommendations for further areas of improvement.

JOINT UNMANNED AERIAL VEHICLE IN TIME-SENSITIVE OPERATIONS (JUAV-TSO)



Charter – Joint Test start date
Close – Join t Test end date
Key Test Events
Reports – Key Test Event reports
Test Products – Transition of products to customers

SUMMARY

- JUAV-TSO is a three-and-a-half-year test that is currently completing its final year. It is located at Fallon NAS, NV. The Navy is the lead Service.
- JUAV-TSO has completed two mini-tests and two field tests to date. Completing final phase of validation test in October 2004. Data analyses and final report have been accelerated by six months allowing for early shutdown of the test and transition of products to the warfighter.
- During FY 04, conducted Field Test 2.
- JUAV-TSO implemented a test program to develop, refine, evaluate, and validate weapon-delivery methods, communications systems, control relationships, and command structures.

TEST DESCRIPTION AND MISSION

The JUAV-TSO was chartered August 2001 to employ multi-Service and other Department of Defense (DoD) agency personnel, support, and equipment to develop and document joint tactics, techniques, and procedures (JTTPs) for current and proposed tactical unmanned aerial vehicles (UAV). Historically, UAV mission areas included intelligence, surveillance, and reconnaissance. DESERT STORM in the Persian Gulf, Operations ALLIED FORCE in the Balkans, ENDURING FREEDOM in Afghanistan, and IRAQI FREEDOM showed the ability to expand UAV tactical employment during dynamic, time-sensitive, joint operations.

JUAV-TSO testing involves fixed-wing and rotary-wing air interdiction, artillery fire support, close air support, and personnel recovery within three command and control (C2) architectures. These architectures place weapon engagement decisions at various C2 nodes throughout JUAV-TSO-planned test events.

TEST & EVALUATION ACTIVITY

FY 04 testing included a JUAV-TSO JT&E capstone Joint Validation Test Event (JVTE). JVTE output is a set of JTTPs, provided to doctrine writers at the Air Land Sea Application Center (ALSA), JFCOM, and the Services.

JUAV-TSO conducted FT-2 in conjunction with Marine Aviation Weapon and Tactics Squadron (MAWTS), Weapons and Tactics Instructor (WTI) class 2-04 in Yuma, Arizona, in April 2004. JUAV-TSO conducted a multi-phased JVTE focused on data collection and validation of proposed JTTPs. JUAV-TSO subject matter experts developed a set of proposed JTTPs (during previous test events) for integrating UAVs into each mission area. JVTE was an opportunity to validate selected JTTPs.

In late January 2004, JUAV-TSO subject matter experts participated in a Global Hawk Air Force Tactics, Techniques, and Procedures 4-1 development conference at Nellis AFB, Nevada. This conference was the first opportunity for JUAV-TSO to directly influence the development of (TTPs. JUAV-TSO's contribution was praised by the Global Hawk community. JUAV-TSOcontinues to work closely with the USAF Remotely Piloted Aircraft Center of Excellence (RPA COE) at Nellis AFB.

In FY 04, JUAV-TSO supported numerous U.S. Navy Carrier Air Wing flight operations at Fallon by providing UAV system assets to augment pre-deployment training activities. While not considered structured JT&E events, flight operations provided the operational community venues in which to integrate a UAV platform into multiple training scenarios and JUAV-TSO staff opportunities to observe integration. Knowledge gained from these training events was used to refine planning activities associated with future JUAV-TSO field and validation test events.

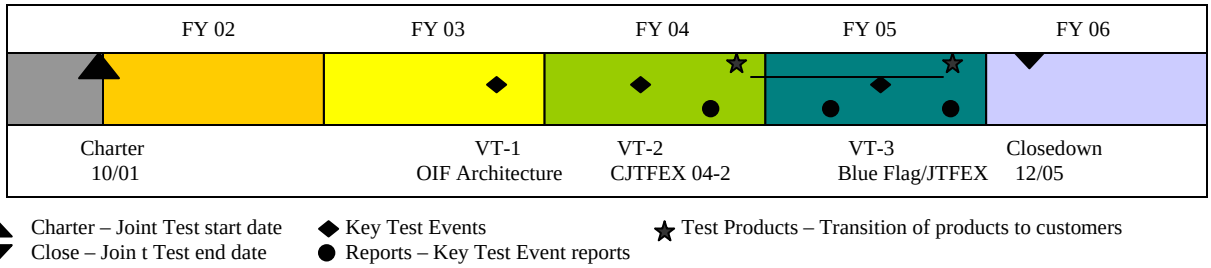
TEST & EVALUATION ASSESSMENT

JUAV-TSO products completed during FY04 include the JUAV-TSO MT-2 Report, the JUAV-TSO FT-2 Quick Look Report, and the FT-2 Test Event Report. To date, JUAV-TSO has evaluated the ability of tactical leaders to effectively and efficiently utilize UAVs in a tactical role within three C2 architectures. JUAV-TSO will develop joint, platform-independent TTPs for UAVs. These JTTPs will improve UAV employment in time-sensitive joint operations, with emphasis on air interdiction, fire support, and personnel recovery missions. JUAV-TSO maintains strong relationships in support of the JUAV-TSO mission to employ multi-Service and other DoD agency personnel, support, and equipment to develop and document JTTPs for current and proposed DoD UAVs in the tactical class of vehicles. All JUAV-TSO tests have produced invaluable data supporting the integration of time-sensitive tactical UAV operations in the warfighting community. The JUAV-TSO completion date is April 2005.

PULL QUOTE

JUAV-TSO testing involves fixed-wing and rotary-wing air interdiction, artillery fire support, close air support, and personnel recovery within three command and control (C2) architectures.

JOINT METHODOLOGY TO ASSESS C4ISR ARCHITECTURE (JMACA)



SUMMARY

- JMACA is a four-year test that is currently completing its third year. It is located at Suffolk, VA. The Navy is the lead Service.
- Two validation tests have been completed. Execution of the final validation test is scheduled for FY 05 during Red Flag 05.
- During FY 04, conducted second validation test using the Combined Joint Task Force Exercise (CJTFEX04-2) that focused on Time-Sensitive Targeting, Close Air Support, and Combat Search and Rescue.
- Due to late force structure changes, conducted a re-assessment of the CJTFEX 04-2 architecture in less than three days providing updated end-to-end information paths with associated interoperability risk prior to exercise execution demonstrating rapid assessment capability.
- Results from initial validation testing demonstrated JMACA Methodology delivers the capability to rapidly assess Joint Task Force (JTF) architectures leveraging existing analytical tools and databases.

TEST DESCRIPTION AND MISSION

JMACA was chartered in FY 02 by DOT&E to test, evaluate, and enhance a set of tools and procedures to assess command, control, communications, computers, intelligence, surveillance, and reconnaissance (C4ISR) architectures. The charter designated the United States Department of the Navy (OPNAV N61) as the lead Service for the JMACA JT&E. The problem statement is: "The JTF commander has insufficient means to rapidly identify deficiencies and solutions within the C4ISR architecture." The purpose of JMACA is to provide the JTF Commander with a validated set of tools and procedures to rapidly assess JTF C4ISR architecture prior to employment.

TEST & EVALUATION ACTIVITY

During FY 04, JMACA conducted validation testing following the JMACA Program Test Plan. The testing used the (CJTFEX 04-2 exercise architecture in three distinct phases between April and August 2004.

Phase 1 – The JMACA test team assessed the exercise architecture to identify deficiencies and evaluate analytical tools and procedures. Also, a select group of potential users provided feedback on suitability of the methodology.

Phase 2 – The JMACA test team collected data in the exercise observing the end-to-end information paths between combat units.

Phase 3 – Using Joint and Service system test beds, the JMACA test team collected data on selected end-to-end information paths not observed in the exercise.

TEST & EVALUATION ASSESSMENT

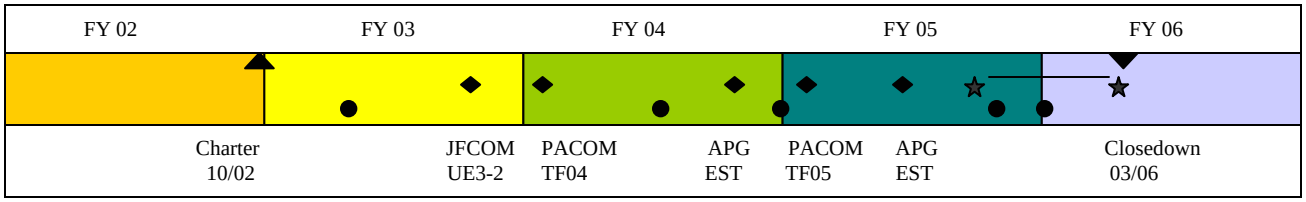
Results from validation testing indicate the methodology successfully demonstrated the rapid, automated mining of Joint C4ISR system data for 100% of selected combat units of the CJTFEX 04-2 exercise supporting architecture development and analysis. In addition, the methodology extracted over 85% of associated system risk data for the C4ISR systems of selected exercise combat units quantifying system and

information path interoperability risk supporting communications planning. The JMACA team also audited on-site 100% of the selected combat unit C4ISR systems for completeness and accuracy of the Joint and Service authoritative data sources providing confidence in automated data mining and subsequent analysis.

PULL QUOTE

Results from initial validation testing demonstrated JMACA Methodology delivers the capability to rapidly assess Joint Task Force architectures leveraging existing analytical tools and databases.

JOINT LOGISTICS PLANNING ENHANCEMENTS (JLOG/PE)



Charter – Joint Test start date
Close – Join t Test end date
Key Test Events
Reports – Key Test Event reports
Test Products – Transition of products to customers

SUMMARY

- JLOG/PE is a three-and-a-half year test that is currently completing its second year. It is located at Aberdeen Proving Ground, MD. The lead service is Army.
- Two test events are complete. The next test event is Terminal Fury executed in December 2004 and the final test event occurs during Terminal Fury, executed in December 2005.
- During FY 04, JLOG/PE assisted the CENTCOM J4 staff in improving their process of acquiring and assimilating logistics information to provide a daily status to the CENTCOM leadership for current in-theater activities.
- To ensure JLOG/PE test findings were not exercise artificialities, a small team deployed to the CENTCOM Area of Responsibility (AOR) to collect data on the joint logistics information and management processes. Analysis correlates the deficiencies identified during the exercises with those found in the real world.

TEST DESCRIPTION AND MISSION

The JLOG/PE joint test was chartered in October 2002 to identify, test, evaluate, and recommend enhancements to joint logistics information and management processes through analysis of data from joint exercises, the Global War on Terrorism operations, and dedicated tests. JLOG/PE improves the Joint Force Commanders' (JFC) abilities to assess, plan for, and manage sustainment of in-theater forces. Recent operations, such as Operation IRAQI FREEDOM, as well as joint exercises, have demonstrated the need for improvements in both the exchange of logistics information between the Service components and the JFC, and in the joint logistics planning and management processes to aid the JFC J4 assessment of the sustainment of in-theater forces. Taken together, these define a requirement for more timely and accurate logistics information.

TEST & EVALUATION ACTIVITY

During FY 03-04, JLOG/PE established baseline joint logistic information and management processes by analyzing data and anecdotal observations gathered during JFCOM exercise Unified Endeavor 3-2, and U.S. Pacific Command (PACOM) exercise Terminal Fury 04.

Following data collection, JLOG/PE conducted a laboratory certification event to certify that the JLOG/PE laboratory located at JLOG/PE Headquarters had the capability and fidelity to permit a replay of a joint exercise scenario as a dedicated test venue.

The lab certification event was conducted in March 2004 at JLOG/PE Headquarters, APG, MD. The test scenario was Terminal Fury 04 (TF04), the USPACOM's number one, tier-1 level, joint exercise. PACOM staff observed the test event and concluded that the test venue did represent the TF04 exercise scenario.

The JLOG/PE Joint Warfighter Advisory Group Conference, April 2004, brought representatives from a wide range of joint and Service testing activities. Members of the JLOG/PE JT&E provided the baseline test findings and an overview on how JLOG/PE JT&E will test and evaluate potential enhancements.

The JLOG/PE Test Product Implementation Plan details the strategy for test product release and follow-through to the customer.

TEST & EVALUATION ASSESSMENT

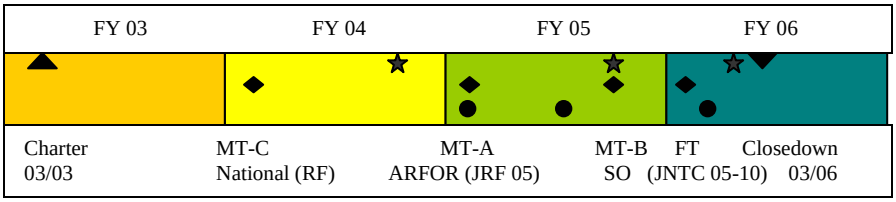
JLOG/PE testing assessed current joint logistics sustainment planning and management processes during the baseline tests. Deficiencies identified include difficulty obtaining logistics situational awareness, difficulty monitoring and assessing logistics status, difficulty estimating and calculating future consumption, lack of logistics simulation "realism" in exercises, and the individual training of newly assigned personnel augmentees. Enhancements to correct the deficiencies are under development. These enhancements will be tested during Terminal Fury 05, December 2005, and results reported.

Joint logistics sustainment planning and management process enhancements will improve warfighter capabilities. Results will manifest themselves in more agile forces that are able to effectively assess operational logistics requirements; improve preparedness of units being committed to operations; provide faster, more informed decisions; improve measurements of success; accelerate operational timetables; reduce risk; and project more capable forces requiring fewer resources. The JLOG/PE JT&E provides that level of utility in terms of process, best practices, analysis, and understanding as usable test products.

PULL QUOTE

The lab certification event was conducted in March 2004 at JLOG/PE Headquarters, APG, MD.

JOINT DATALINK INFORMATION COMBAT EXECUTION (JDICE)



Charter – Joint Test start date
Close – Join t Test end date
Key Test Events
Reports – Key Test Event reports
Test Products – Transition of products to customers

SUMMARY

- JDICE is a three-year test in its second year of testing. It is headquartered at Nellis AFB, NV. The Air Force is the lead Service.
- JDICE was chartered six months early as part of the JT&E re-engineering process and conducted its first test within seven months after chartering.
- JDICE test concept is based on empirical testing during three live mini-tests and a field test using current joint warfighters, their fielded systems, and realistic targets.

TEST DESCRIPTION AND MISSION

The purpose of JDICE is to improve the Joint shooter's tactical situational awareness. JDICE does this by developing, testing, evaluating, and institutionalizing Joint and Service tactics, techniques and procedures (TTPs) that provide actionable mission information across multi-platform, fielded, tactical air and ground data links specifically focused on improving the tactical user's combat employment capability. JDICE will specifically determine if the expanded application of Link 16 improves joint targeting and deconfliction processes. JDICE disseminates interim test results via quick look reports, test event reports and a Final Test Report. The JDICE Joint Test is sponsored by the Air Warfare Center, and supported by Air Combat Command (ACC) and USAF/XI.

In order to provide for accelerated testing, JDICE is using an "out-of-the-box" approach, using typical Tactics Development and Evaluation (TD&E) and qualitative methods. The test team is documenting the methodology used to accomplish this effort in the shortened time frame**.**

TEST & EVALUATION ACTIVITY

JDICE selected each mini-test focus as a direct result of the Advanced Working Group and Joint Warfighter Advisory Group (JWAG) inputs. The Army Forces (ARFOR)/Marine Forces (MARFOR) test event is the most involved mini-test (Mini-Test A) and therefore, will be accomplished after the initial Mini-Tests C and B. Simply stated, the objective of Mini-Test A is to integrate filtered ground picture information on the Link 16 net with the targeting and deconfliction information tested in Mini-Tests C and B. This information is not currently on the Link 16 network and is not effectively transmitted to the tactical level combatant.

Mini-Test B integrates Special Operation Forces (SOF) forces into the targeting and deconfliction equation. The objective of Mini-Test B is to integrate SOF forces in the joint employment campaign plan with emphasis on reduction in probability of friendly fire incidents and optimization of passing SOF derived mission information to joint shooters. Mini-Test A will consider several of the actionable information paths looked at in the completed mini-test and add rapid ground force movement into the equation. JFC prioritization is required to focus the application of the JDICE TTP development methodology to develop TTPs to move actionable information designated by the JFC to the tactical level shooters via Link 16.

Mini-Test C, the first JDICE test, prioritized passage of National asset information. The objective of Mini-Test C provided a usable real-time emitter picture to tactical level shooters and passed applicable actionable

information to tactical level combatants. This information previously only existed at operational levels, but not at tactical levels.
JDICE conducted Mini-Test C at Nellis AFB, NV from October to November 03 in conjunction with Red Flag 04-01 and included dedicated test assets from the 422 Test and Evaluation Squadron (TES), Navy fighter aircraft from Fallon NAS, along with normal Red Flag participants. The second week of Mini-Test C was a dedicated JDICE test and evaluation on the Nellis Test and Training Range to ensure that JDICE generated statistically significant data to support testing requirements.

Mini-Test C was designed to flow quick look results directly into scheduled Air Force and Navy JTTP conferences covering Space, Command and Control, and Fighter mission areas. This immediate feedback enabled new and proven JTTP and TTP development methodology to be rapidly disseminated to all Joint combatants and applicable Service components. Operational constraints, TTP development methodology, and other limitations discovered during the test serve as a foundation to evolve the role of Link 16 in modern warfighting, and potentially influence ongoing and future machine-to-machine acquisition strategy.

JDICE briefed the 2004 ACC Weapons & Tactics Conference in January 2004. The Al Udeid CAOC/CC, was so impressed by the project's positive impact on the Warfighter, that he requested a copy of the JTTP in order to immediately implement them in Al Udeid.

TEST & EVALUATION ASSESSMENT

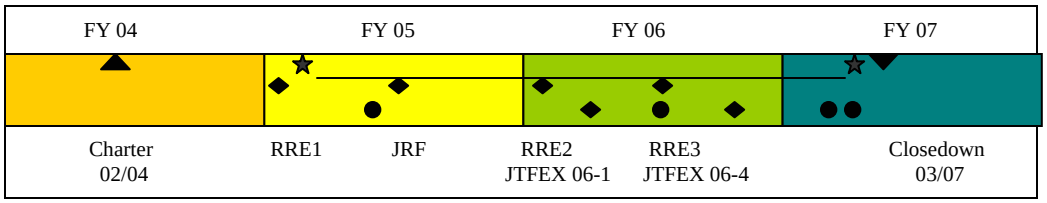
JDICE is finalizing the Detailed Test Plan (DTP) in preparation for the execution of Mini-Test A. Venues for the March 05 Test will be Joint RED FLAG, Joint ROVING SANDS, USA NTC, and USMC CAX. In addition to these JNTC venues, portions of Mini-Test A will also be conducted in conjunction with the USMC's MAWTS-1 syllabus at Yuma.

Mini-Test B, originally planned for summer 04, was postponed because test assets received higher priority real-world tasking. The DTP for Mini-Test B is completed and approved, and JDICE is awaiting final determination of the test venue. Risk reduction sorties began June 04, in conjunction with 422 Test and Evaluation Squadron (TES) and VX-31 TD&E sorties at Nellis AFB, NV. The risk reduction effort verified CAOC-N procedures and connectivity to Link 16, test instrumentation, database procedures, test procedures, aircraft Link 16 capabilities, data collection procedures, and JTTP procedures. JTTP development methodology used for Mini-Test C is the baseline for Mini-Tests A and B.

PULL QUOTE

The objective of Mini-Test A is to integrate filtered ground picture information on the Link 16 net with the targeting and de-confliction information tested.

Joint Integration and Interoperability of Special Operations (JIISO)



Charter – Joint Test start date
Close – Join t Test end date
Key Test Events
Reports – Key Test Event reports
Test Products – Transition of products to customers

SUMMARY

- JIISO is a three-year test currently in its first year of execution. It is located at MacDill AFB, FL. The military lead is USSOCOM.
- Planning is for three field tests (JTFEX-series) supported by three risk-reduction periods.
- During FY 04, JIISO observed JTFEX 04-2 as a risk-reduction event.
- In addition, JIISO held its first General Officer Steering Committee (GOSC) meeting, co-chaired by the Deputy Commanders of USSOCOM and USJFCOM, in Tampa, Florida.
- The GOSC provided guidance to revise the JIISO strategy to significantly accelerate product delivery to the warfighter.
- Accelerated products include delivery of a SOF and CF Liaison and Coordination Handbook as a "quick-turn" product within six months, incorporating operationally proven ad hoc tactics, techniques, and procedures (TTPs) solutions that are widely accepted, but that have not yet been codified.
- In addition, incorporate enhancements to five specific TTPs in the first field test, enabling delivery of tested and evaluated enhancements to the warfighters shortly after the first field test.

TEST DESCRIPTION AND MISSION

The Joint Integration and Interoperability of Special Operations (JIISO) Joint Test and Evaluation (JT&E) was chartered in March 2004 to employ multi-Service and other Department of Defense (DoD) agency support, personnel, and equipment to investigate, evaluate, and make recommendations to improve the operational effectiveness of joint integration and interoperability of Special Operations Forces (SOF) and Conventional Forces (CF). Specifically, JIISO will test and evaluate the integration and interoperability of SOF and CF during the planning and execution of maneuver and fire support coordination during tactical operations.

USSOCOM is the lead Service for JIISO with USJFCOM as co-sponsor. JIISO is developing and enhancing TTPs; improving the supporting System of Systems; and proposing, when appropriate, changes to doctrine, organization, training, materiel, leadership and education, and personnel, and facilities (DOTMLPF) that improve SOF and CF integration and interoperability during the planning and execution of maneuver and fire support coordination.

TEST & EVALUATION ACTIVITY

During the first half of FY 04, JIISO transitioned from a Joint Feasibility Study into a fully chartered JT&E project. JIISO conducted an operational workshop to add definition to the JIISO scope; held a JIISO Joint Warfighter Advisory Group conference to afford the Services and joint warfighters the opportunity to validate the proposed JIISO scope, test articles, and test venues and demonstrated JIISO technical feasibility and executability to the OSD JT&E Technical Advisory Board.

Following charter, JIISO began aggressively posturing for a successful three-year test by obtaining approval of the JIISO Program Test Plan and beginning execution of the plan. JIISO held a combined technical and operational symposium to validate the proposed objectives for the first risk-reduction

laboratory event; vet TTP enhancements proposed for inclusion in the first field test; vet the proposed contents of the JIISO quick-turn product (SOF and CF Liaison and Coordination Handbook).

TEST & EVALUATION ASSESSMENT

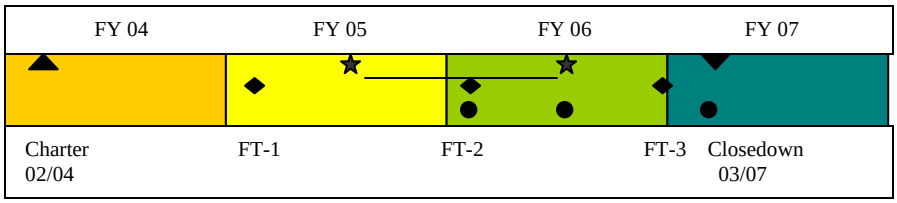
JIISO emphasizes enhancements to maneuver and fire support coordination TTPs rather than the supporting tools and technology. While SOF and CF operations were previously deconflicted more through time and space separation than through a concerted effort to integrate operations, the JIISO intent is to move from a focus on deconfliction to a synergistic state of leveraging SOF and CF in current and future military operations.

Planned test deliverables include transformation change packages with DOTMLPF recommendations (including TTPs, training and education drivers, and materiel recommendations), validated TTP training packages, and "as-is" and "to-be" joint integrated operational processes and system views.

The JIISO test concept is based on three field tests over the course of the three-year test, each supported by a series of risk-reduction activities. Risk-reduction activities may include field observations, research, workshops, surveys, interviews, and laboratories. Laboratories will be used to validate data collection tools and processes, proof and refine proposed enhancements, and train operators on proposed enhancements before implementation in an exercise environment. JIISO will leverage scheduled joint exercises for field tests, with Joint National Training Capability (JNTC) exercises affording the best opportunity for testing based on force participation and receptiveness to including JT&E exercise objectives.

In keeping with JIISO GOSC guidance, the first JIISO test event will include the test and evaluation of enhancements to five specific TTPs compared with empirical insights from recent events. The warfighters, represented by the Joint Warfighter Advisory Group and GOSC, will validate JIISO conclusions and recommendations and provide the reference point for comparison of test results. JIISO will balance the production of a quick-turn (no-test) product with the effort required for detailed test planning for a successful first field test. Risk-reduction activities and results of previous field tests will identify integration and interoperability deficiencies. Based on these deficiencies, JIISO will develop process and system enhancements to be tested during the final two test events. Quick look and test event reports, validated by the warfighters, will be produced after each of the three field tests.

JOINT SPACE CONTROL OPERATIONS - NEGATION (JSCO-N)



Charter – Joint Test start date
Close – Join t Test end date
Key Test Events
Reports – Key Test Event reports
Test Products – Transition of products to customers

SUMMARY

- JSCO-N is a three-year test currently in its first year of execution. It is located at Colorado Springs, CO. The Air Force is the lead Service.
- Planning is for three Field Tests (Terminal Fury 05, 06, and Unified Endeavor 06).
- Field Test 1 will provide a mission area baseline to identify potential improvements for the joint warfighter.

TEST DESCRIPTION AND MISSION

JSCO-N was chartered in March 2004 to address the threat of an adversary using space to threaten friendly space-based services (imagery systems, satellite communications, and satellite navigation systems). JSCO-N is sponsored by Air Force Space Command and is actively supported by U.S. Army Space and Missile Defense Command and U.S. Naval Network Warfare Command. STRATCOM, as the mission area "owner," and PACOM are both collaborating with JSCO-N as well.

The Space Control mission area is defined as "combat and combat support operations to ensure freedom of action in space for the United States and its allies and, when directed, deny an adversary freedom of action in space" (Department of Defense Directive 3100.10, July 1999). JSCO-N addresses the "negation" function of the Space Control mission area. Space Control Negation (SCN) may target an adversary's space capability by using a variety of permanent and/or reversible means to achieve five possible effects: deception, disruption, denial, degradation, and destruction. Because these effects focus on attacking the adversary's ability to use the "high ground" of space to its advantage, SCN planning must be fully integrated into the Joint Force Commander's targeting cycle.

TEST & EVALUATION ACTIVITY

JSCO-N is planning and conducting test activity to identify, evaluate, and document improvements to the planning and assessment of Joint SCN combat capability. JSCO-N focuses on better synchronization of space control operations through the Theater Combatant Commander's joint targeting cycle. Test results will provide empirical data with recommendations to the operational, training, and acquisition communities, and will support Doctrine, Organization, Training, Leadership, Material, Personnel, and Facilities (DOTMLPF) as well as Transformation Change Package recommendations coordinated through JFCOM.

The JSCO-N made significant strides in drafting a concept document that captures current "best practices" in command and control of space control negation capabilities. JSCO-N has been conducting extensive coordination and liaison with space control negation operators and stakeholders. JSCO-N personnel have comprehensively researched doctrine, existing standard operating procedures, emerging concepts of operation, and lessons learned from exercises and operational contingencies. This knowledge is being distilled into an in-depth "Procedures Document" addressing Inputs, Outputs, and Operational and command and control (C2) architecture, complete with matrixes, templates, and checklists. Due to the fact that there are no standard procedures among the combatant Area of Responsibilities (AORs) for performing

SCN, the detailed information within the Procedures Document will fill this void for the first time. The JT&E will use this material to aid the JSCO-N Detailed Test Plan refinement and test article development. STRATCOM is incorporating this procedural summary into its Strategic Directive on space control operations. In addition, work is being conducted with JFCOM Air, Land and Sea Applications (ALSA) Center to initiate a multi-Service tactics, techniques, and procedures (TTPs) effort following the first test event and the validation of the procedures.

TEST & EVALUATION ASSESSMENT

As one of the first JT&E efforts under the new streamlined JT&E process, JSCO-N has successfully established and positioned itself to produce test products quickly. In preparation for the first test, JSCO-N has been integrated into the Initial Planning Conference, Mid Planning Conference, and various working groups associated with Terminal Fury 05 to be held in PACOM in December 2004. JSCO-N has been accepted as a participant in this Tier 1 exercise.

The team has conducted risk-reduction strategies by imbedding personnel into two related activities (Joint Expeditionary Forces Experiment 04 and the Schriever III Wargame and associated seminars, that will illuminate potential space control test articles that may be factors in our TF-05/06 field tests).

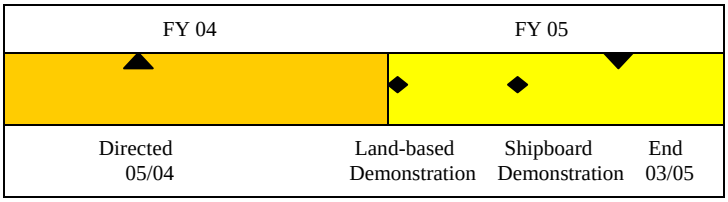
The third Joint Warfighter Advisory Group's (JWAG) was conducted in June 2004 and the fourth is planned for October 2004. Primary topics discussed at the JWAG included test design, draft command and control processes, data collection and analysis methodology.

JSCO-N's first General/Flag Officer Steering Committee (GOSC) is scheduled for October 2004. The JSCO-N GOSC is an advisory body that provides a forum for senior-level counsel and advocacy from the Military Services, the Unified Commands, and Department of Defense (DoD) Agencies.

PULL QUOTE

JSCO-N focuses on better synchronization of space control operations through the Theater Combatant Commander's joint targeting cycle.

JOINT SHIPBOARD WEAPONS AND ORDNANCE (JSWORD)
QUICK REACTION TEST (QRT)



QRT start date
QRT end date
Key Test Events

SUMMARY

- JSWORD is a quick reaction, ten-month test. It is headquartered in Suffolk, VA.
- JSWORD is sponsored by USSOCOM and executed by Commander, Operational Test and Evaluation Force (COTF).
- As a result of this QRT, USSOCOM should be able to operate and train from Navy ships without requiring waivers when using the 2.75-inch Folding Fin Aerial Rocket (2.75" FFAR).
- JSWORD will also determine if the developed and validated approval process for the 2.75" FFAR can be utilized to support certification of other munitions needed to support emergent contingency requirements.
- JSWORD will execute two demonstrations to validate the process. A ground-based risk mitigating demonstration focused on logistics and arming/de-arming procedures for USSOCOM, Army, and USMC helicopters operating aboard a U.S. Navy Amphibious Assault Ship. A shipboard operational demonstration to validate the JSWORD process and resolve any issues identified during the ground-based demonstration.
- Test results will provide empirical data to support findings, conclusions, and recommendations to the joint operational, training, and acquisition communities.

TEST DESCRIPTION AND MISSION

JSWORD was directed in May 2004 to establish, document, and publish a standard joint procedure for tube loading of the (2.75" FFAR on U.S. Army (USA) and USSOCOM helicopters. Operating procedures developed during this test shall be acceptable to both USSOCOM and Fleet Forces Command (FFC).

The results from JSWORD will provide procedures to mitigate the risks associated with the transportation, storage, handling, loading and unloading of the 2.75” FFAR during joint shipboard training and operations. One-time waivers for the 2.75” FFAR have been granted for each contingency without addressing the long-term problem. Without a formal process in place, USSOCOM and the Army are unable to conduct live-fire training exercises. Ships develop ad hoc procedures such as turning off radar and radio transmitters. These procedures increase the ship’s vulnerability when unapproved munitions are on deck. The risk of accidental discharge due to radio frequency interference is unknown. The goal of the JSWORD QRT is to validate and verify the process which will quantify the risk, and to determine the changes needed for the associated Service publications.

Since June, JSWORD focused on an operational process solution, research, and data gathering. Baseline data has been gathered from lessons learned from USS KITTY HAWK during Operation ENDURING FREEDOM (OEF) and USS AMERICA contingency operations during Haiti. A Systems Safety Working Group (SSWG) has been formed and is responsible for conducting a Systems Safety Risk Assessment (SSRA), which involves compiling data regarding previous systems safety testing of the 2.75" FFAR and the associated weapons systems from all the Services.

TEST & EVALUATION ACTIVITY

JSWORD completed the land-based demonstration in October 04 at Fort Campbell, Kentucky, with participants from the 160th Special Operations Aviation Regiment (SOAR), an Army Apache Squadron, and the 2nd Marine Air Wing (MAW). Each type of helicopter used live and inert 2.75" FFAR rounds to:

- Compare the NAVAIRSYSCOM approved contingency checklists with current Joint and Service checklists. JSWORD observed and documented Army, USMC, and SOCOM procedures, compared those procedures to current contingency checklists, and practiced procedures that will be performed during the shipboard demonstration.
- Identify changes needed to improve and validate the NAVAIR checklists and focus on inter-service logistics, packaging, handling, stowage, and transportation of the 2.75" FFAR.
- Examine the safety, technical, and operational issues associated with inert and live cold/hot tube loading.
- Provide an initial validation of the technical information generated from the System Safety Risk Assessment (SSRA) that has been drafted by the SSWG.
- Brief the Naval Ordnance Safety and Security Activity (NOSSA) regarding the results of the SSRA to prepare for the shipboard demo in 2005.

The shipboard operational demonstration, scheduled for January through February 05 onboard USS NASSAU, will focus on issues related to personnel, training, ordnance assembly/load-out/replenishment and validation of the final SSRA recommendations and process issues. The initial coordination meeting with USS NASSAU has been completed. The 160th SOAR will support the shipboard demonstration. USA and USMC units are being identified.

TEST & EVALUATION ASSESSMENT

The JSWORD SSRA document is providing great insight into various technical issues with the 2.75" FFAR onboard ship. The document addresses these vital areas:

- Risk assessment for specific aircraft platforms, fire control systems, and launchers (for SOF/USA/USMC)
- Fastpack packaging vice wooden boxes
- Detailed systems description (including rocket, motor, warhead, fuse, etc.)
- Risk spreadsheets for component and sub-assemblies, hazard category, and corrective action mitigation focused on CVNs and amphibious class ships

Continued assessment will be provided as JSWORD briefs the NOSSA and CNO N411. USSOCOM views this process along with the SSRA to provide critical information for the future certification of specific weapons (30 MM, 7.62" mini-gun, and other Special Operations Forces weapons) in the shipboard environment. JSWORD will close in March 2005.

PULL QUOTE

The shipboard operational demonstration…will focus on issues related to personnel, training, ordnance assembly/load-out/replenishment and validation of the final SSRA recommendations and process issues.